

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A medical device for acquiring and analyzing a multi-lead electrocardiogram (ECG), the medical device comprising:
  - input terminal for connection to a patient to acquire multi-lead ECG signals from a patient;
  - instrumentation amplifier connected to the input terminal to filter the ECG signals and combine the signals to generate a multi-lead ECG; ~~and~~
  - analysis module including a processor and software for operating the processor to detect cyclic artifact in the multi-lead ECG and select a lead for analysis based on a lack of cyclic artifact in that lead; and
  - an analog-to-digital (A/D) converter connected between the instrumentation amplifier and the analysis module,
  - wherein the multi-lead ECG generated by the instrumentation amplifier is an analog multi-lead ECG, wherein the A/D converter converts the analog multi-lead ECG to a digital multi-lead ECG and wherein the analysis module detects cyclic artifact in the digital multi-lead ECG.
2. (Original) A medical device as set forth in claim 1, the medical device further comprising:
  - a display monitor connected to the analysis module, the display monitor capable of displaying the selected lead.
3. (Original) A medical device as set forth in claim 1, the medical device further comprising:
  - a printer connected to the analysis module, the printer capable of printing the selected

lead.

4. (Original) A medical device as set forth in claim 1, the medical device further comprising:  
an external storage device connected to the analysis module, the external storage device capable of storing the selected lead.

5. (Cancelled)

6. (Original) A medical device as set forth in claim 1, wherein the multi-lead ECG comprises twelve leads.

7. (Original) A medical device as set forth in claim 1, wherein the multi-lead ECG comprises seven leads.

8. (Cancelled)

9. (Currently Amended) A medical device for acquiring and analyzing a physiological waveform, the medical device comprising:

an input terminal for connection to a patient to acquire the physiological waveform from a patient;

an instrumentation amplifier connected to the input terminal to filter the physiological waveform; ~~and~~

an analysis module including a processor and software for operating the processor to detect cyclic artifact in the physiological waveform; and

an analog-to-digital (A/D) converter connected between the instrumentation amplifier

and the analysis module.

wherein the physiological waveform filtered by the instrumentation amplifier is an analog physiological waveform, wherein the A/D converter converts the analog physiological waveform to a digital physiological waveform and wherein the means for detecting cyclic artifact in the physiological waveform.

10. (Original) A medical device as set forth in claim 9, the medical device further comprising:

a display monitor connected to the analysis module, the display monitor being capable of displaying the physiological waveform.

11. (Original) A medical device as set forth in claim 9, the medical device further comprising:

a printer connected to the analysis module, the printer being capable of printing the physiological waveform.

12. (Currently Amended) A medical device as set forth in claim 9, the medical device further comprising:

an external storage device connected to the analysis module, the external storage device being capable of storing the physiological waveform.

13. (Original) A medical device as set forth in claim 9, wherein the physiological waveform is a multi-lead ECG.

14. (Original) A medical device as set forth in claim 13, wherein the multi-lead ECG comprises twelve leads.

15. (Original) A medical device as set forth in claim 13, wherein the multi-lead ECG comprises five leads.

16. (Cancelled)

17. A medical device for acquiring and analyzing a physiological signal, the medical device comprising:

an input terminal for connection to a patient to acquire a physiological signal from the patient;

an instrumentation amplifier connected to the input terminal to filter and amplify the physiological signal resulting in a physiological waveform; ~~and~~

means for detecting cyclic artifact in the physiological waveform; and

an analog-to-digital (A/D) converter connected between the instrumentation amplifier and the means for detecting cyclic artifact.

wherein the physiological waveform generated by the instrumentation amplifier is an analog physiological waveform to a digital physiological waveform and wherein the means for detecting cyclic artifact detects cyclic artifact in the physiological waveform.

18. (Original) A medical device as set forth in claim 17, the medical device further comprising:

a display monitor connected to the means for detecting cyclic artifact, the display monitor being capable of displaying the physiological waveform.

19. (Original) A medical device as set forth in claim 17, the medical device further comprising:

a printer connected to the means for detecting cyclic artifact, the printer being capable of printing the physiological waveform.

20. (Original) A medical device as set forth in claim 17, the medical device further comprising:

an external storage device connected to the means for detecting cyclic artifact, the external storage device being capable of storing the physiological waveform.

21. (Original) A medical device as set forth in claim 17, wherein the means for detecting cyclic artifact comprises an analysis module having a processor and software for detecting cyclic artifact in the physiological waveform.
22. (Original) A medical device as set forth in claim 17, wherein the physiological signal is a multi-lead ECG signal, and wherein the physiological waveform is a multi-lead ECG.
23. (Original) A medical device as set forth in claim 22, wherein the multi-lead ECG comprises twelve leads.
24. (Original) A medical device as set forth in claim 22, wherein the multi-lead ECG comprises five leads.
25. (Cancelled)